

REMARKS

Reconsideration and allowance of this application are respectfully requested in light of the foregoing amendments and the following remarks.

THE INVENTION

The instant invention is "rheology modification by addition of at least one peroxide and at least one free radical coagent in a **specific ratio** to achieve significant effect on the extrudability and surface properties of blends of at least one elastomeric EAO polymer or EAO polymer blend and a polyolefin such as PP.

Extruded, molded, and calendered articles manufactured from the rheology modified compositions of this invention have improved surface properties, even at significantly higher production rates than corresponding compositions rheology modified by the addition of peroxides or peroxides and coagents at 1:2 to 2:1 ratios."

(Specification, Page 3, Lines 12-20). The instant invention is "a rheology-modified, gel-free TPE composition comprising an EAO polymer or EAO polymer blend and a high melting polymer selected from the group consisting of polypropylene homopolymers and propylene/ethylene copolymers, wherein the composition is rheology modified by at least **one peroxide at a concentration between 0.005 and 0.075 wt % based on TPE composition, and at least one free radical coagent in a peroxide to coagent ratio of at least 1:4**, the

rheology modified composition having a tan delta @190°C of between 1.05 and 1.40 and an STI of between 15 and 30 including the end points." (Specification, Page 3, Lines 20-30). "Compounds prepared from the rheology modified polymers of the instant invention can be extruded at higher line speeds to produce a profile having a much smoother surface than profiles prepared from the same polymers, but rheology modified by peroxide alone or by peroxide and a coagent at a 1:2 to 2:1 ratio." (Specification, Page 3, Line 30 to Page 4, Line 2).

The instant invention, as described in Claims 1-22, requires a **0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20.**

PRIOR ART REFERENCES

U.S. Patent No. 6,548,600 ('600) discloses "a rheology-modified thermoplastic elastomer composition comprising a melt blend of an ethylene/ α -olefin polymer and a high melting polymer such as a polypropylene or a polypropylene α -olefin copolymer wherein the rheology modification is induced by a combination of a peroxide and a free radical coagent. (Abstract). According to '600, "the peroxide is suitably present in the amount that is with the range of about 100 to about 10,000 parts by weight per million part by weight of polymer." (Column 7, Lines 15-20). Furthermore, "the range is preferably from about 1,000 to about 3,000 parts by weight." (Column 7, Lines 15-20). Additionally, "the coagent

suitably present in an amount that is within the range of from about 100 to about 10,000 parts per million by weight, and preferably, from 1,000 to about 3,000 parts per million by weight." (Column 7, Lines 45-50). The '600 further discloses that "the ratio coagent to peroxide is suitably within the range from about 1:10 to about 10:1, preferably from about 1:5 to about 5:1, and more preferably from about 1:2 to about 2:1." (Column 8, Lines 4-8). Finally, the working Examples 1-8 have the following peroxide to coagent ratios, and Weight Percent of peroxide:

TABLE I

| Example No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------------------|-----|-----|------|------|------|------|------|------|
| Peroxide:Coagent Ratio | 2:3 | 3:4 | 1:1 | 1:1 | 1:1 | 1:1 | 1:1 | 3:4 |
| Weight Percent of Peroxide | 0.2 | 0.3 | 0.15 | 0.15 | 0.15 | 0.05 | 0.15 | 0.15 |

U.S. Patent No. 6,610,785 ('785) discloses "a thermoplastic elastomeric composition obtained by mixing and cross-linking a thermoplastic olefin polymer, which comprises an unsaturated polyolefin, and an unsaturated elastomeric olefin polymer." (Column 1, Lines 5-10). According to '785, "the thermoplastic elastomeric composition includes: (A) from 10-80% by weight of one or more crystalline polymer of propylene containing from 0.05 to 15% in moles of ethylenic unsaturated polymer, or a mixture of the above polymer with a saturated thermoplastic olefin polymer in

quantities lower than or equal to 80% by weight; and (B) from 20 to 90% by weight of an unsaturated elastomeric olefin polymer."

(Column 1, Lines 31-41). "The thermoplastic elastomeric composition of '785 is cross-linked with a cross-linking agent comprising a free radical generator." (Column 1, Lines 41-43).

"The free radical generator, e.g. peroxides, is preferably added in quantities ranging from **0.1 to 10% by weight, more preferably from 1 to 5% by weight with respect to the sum of components A and B.**"

(Column 3, Lines 1-10). "The cross-linking action can also be supported by the addition of cross-linking coagents in quantities ranging from **5% to 60% by weight with respect to the radical generator.**" (Column 3, Lines 10-24). Finally, the working

Examples 1-8 have the following Weight Percent of peroxide, and Weight Percent of coagent:

TABLE II

| Example No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|----------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Weight Percent of Peroxide | 6.00 | 4.00 | 5.00 | 6.00 | 5.00 | 5.00 | 6.00 | 6.00 | 6.00 | 4.00 | 5.00 | 6.00 |
| Weight Percent of Coagent | — | 0.60 | 0.78 | 0.93 | 0.78 | 0.78 | 0.93 | 0.93 | — | 0.60 | 0.78 | 0.93 |

U.S. Patent Application Publication No. 2002/0082328 ('328) discloses "a polypropylene resin composition including (A) 30-70

Wt% of polypropylene resin comprising propylene homopolymer, ethylene-propylene block copolymer, or mixture thereof; (B) 10-30 wt% of ethylene- α -olefin elastomer; (c) 10-40 wt% of an inorganic filler; (D) 0.01-0.2 wt% of an organic peroxide based to 100 wt% of said polypropylene resin (A); and (E) 0.06-1.2 wt% of cross-linking assistant based to 100 wt% of said polypropylene resin (A)." (Page 1, Paragraphs 9-14). "The compounding ratio of the cross-linking assistant/peroxide is preferably 3-12, and more preferably 4-10." (Page 2, Paragraph 33).

European Patent Publication No. EP 0,672,712 ('712) discloses a "reformed polypropylene resin composition including (D) 0.01 to 0.2 parts by weight of an organic peroxide; (E) 0.05 to 1 part by weight of a cross-linking assistant, per 100 parts by weight of a total (A) 50-90 parts by weight of a polypropylene; (B) 0-25 parts by weight of an olefin copolymer rubber, and; (C) 5-40 parts by weight of an inorganic filler." (Page 2, Lines 39-46). Examples 1-8 have the following Weight Percent of peroxide, and Weight Percent of coagent:

TABLE III

| Example No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----------------------------|------|-------|------|------|------|------|------|------|
| Weight Percent of Peroxide | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 | 0.08 |
| Weight Percent of Coagent | 0.50 | 0.375 | 0.30 | 0.25 | 0.20 | 0.20 | 0.20 | 0.50 |

International Publication No. WO 02/24803 ('803) discloses "a rheology-modified thermoplastic elastomer composition comprising a melt blend of an ethylene/ α -olefin polymer and a high melting polymer such as a polypropylene or a polypropylene α -olefin copolymer wherein the rheology modification is induced by a combination of a peroxide and a free radical coagent. (Page 1, Lines 5-20). According to '803, "the peroxide is suitably present in the amount that is with the range of about 100 to about 10,000 parts by weight per million part by weight of polymer." (Page 11, Lines 28-30). Furthermore, "the range is preferably from about 1,000 to about 3,000 parts by weight." (Page 11, Lines 31-32). Additionally, "the coagent suitably present in an amount that is within the range of from about 100 to about 10,000 arts per million by weight, and preferably, from 1,000 to about 3,000 parts per million by weight." (Page 12, Lines 20-25). The '803 further discloses that "the ratio coagent to peroxide is suitably within the range from about 1:10 to about 10:1, preferably from about 1:5 to about 5:1, and more preferably from about 1:2 to about 2:1." (Page 13, Lines 10-15). Finally, the working Examples 1-8 have the following peroxide to coagent ratios, and Weight Percent of

peroxide:

TABLE IV

| Example No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|-------------------------------|-----|-----|------|------|------|------|------|------|
| Peroxide:Coagent Ratio | 2:3 | 3:4 | 1:1 | 1:1 | 1:1 | 1:1 | 1:1 | 3:4 |
| Weight Percent of Peroxide | 0.2 | 0.3 | 0.15 | 0.15 | 0.15 | 0.05 | 0.15 | 0.15 |

U.S. Patent No. 6,087,431 ('431) discloses "an olefinic thermoplastic elastomer composition comprising a mixture including (1) 100 parts by weight of an olefinic elastomer comprising ethylene and at least one α -olefin having 6 to 12 carbon atoms; (2) 5 to 90 parts by weight of a polymeric polymer; and (3) 5 to 250 parts by weight of an oil for rubber." (Column 1, Lines 50-65). "The mixture of '431 is cross-linked by a radical initiator r both a radical initiator and a cross-linking promoter." (Column 1, Lines 65-67). Radical initiators include organic peroxides. (Column 5, Lines 30-37). "The radical initiator is used in the amount of 0.02 to 3 parts by weight, preferably 0.05 to 1 part by weight, per 100 parts by weight of the olefinic elastomer." (Column 6, Lines 1-3). "The cross-linking promoter is used in the amount of 0.1 to 5 parts by weight, preferably 0.5 to 2 parts by weight, per 100 parts by weight of the olefinic elastomer." (Column 6, Lines 20-23).

TABLE V

| Example No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Weight Percent of Peroxide | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 | 0.5 |
| Weight Percent of Coagent | 1 | 1 | 1 | 1 | 1.3 | 1.3 | 1 | 1 |

DISCUSSION WITH REGARD TO DOUBLE PATENTING REJECTION

With regard to double patenting rejection over Claims 19-40 of copending Application No. 10/915,011, the instant Application and the copending Application No. 10/915,011 are both assigned to Dow Global Technologies, Inc., a subsidiary of Dow Chemical Company. The forgoing assignments are in the process of being submitted to the U.S. Patent Office to be recorded. A terminal disclaimer in compliance with 37 CFR 1.321(c) is also being filed with this response to overcome this provisional rejection based on the non-statutory double patenting ground.

With regard to double patenting rejection over Claims 1-7 of U.S Patent No. 6,774,186 ('186), the instant Application and '186 are both assigned to Dow Global Technologies, Inc., a subsidiary of Dow Chemical Company. A copy of the Notice of Recordation of Assignment for '186 to Dow Global Technologies, Inc. is submitted herewith this Response as Exhibit A. The assignment to Dow Global

Technologies, Inc. for the instant Application, as mentioned above, is in the process of being submitted to the U.S. Patent Office to be recorded. A terminal disclaimer in compliance with 37 CFR 1.321(c) is also being filed with this response to overcome this rejection based on the non-statutory double patenting ground.

With regard to double patenting rejection over Claims 1-7 of U.S Patent No. 6,548,600 ('600), the instant Application and '600 are both assigned to Dow Global Technologies, Inc., a subsidiary of Dow Chemical Company. A copy of the Notice of Recordation of Assignment for '600 to Dow Global Technologies, Inc. is submitted herewith this Response as Exhibit B. The assignment to Dow Global Technologies, Inc. for the instant Application, as mentioned above, is in the process of being submitted to the U.S. Patent Office to be recorded. A terminal disclaimer in compliance with 37 CFR 1.321(c) is also being filed with this response to overcome this rejection based on the non-statutory double patenting ground.

DISCUSSION WITH REGARD TO SECTION 102(e) REJECTION

Claims 1-22 are not anticipated by the U.S. Patent Nos. 6,548,600, and 6,610,785, European Patent Publication No. EP 0,672,712, or International Publication No. WO 02/24803 for the reasons stated below.

To anticipate a claim, a single source must contain all of the elements of the claim. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

The instant invention, as described in Claims 1-22, requires **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. This combination of specific ranges insures that the rheology-modified, gel-free thermoplastic elastomer composition of the instant invention has an STI of 15-30, a tan delta at 190°C of 1.05-1.40 and a gel content that is below detectable limits when using xylene as the solvent in ASTM D 2765-90, method B. However, none of the above-mentioned prior art references mentions anything about this combination of specific ranges.

With regard to '600, although '600 discloses broad individual ranges with regard to weight percent of peroxide and the coagent, '600 fails to mention anything with regard to the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. Additionally, none of the specific teachings of '600, i.e.

Example 1-8, as shown above in Table I, teaches the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. Therefore, '600 fails to teach all of the required elements of the instant invention.

With regard to '785, '785 requires an excess amount of peroxide relative the coagent, as shown in Table II. Furthermore, not only does the general teachings of '785 fail to disclose the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**, but the specific teachings of '785, i.e. Examples 1-12 as shown above in Table II, also fails to teach the combination of the two specific ranges as required by the instant invention. In fact, '785 teaches away from the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. Therefore, '785 fails to teach all of the required elements of the instant invention.

With regard to '712, although '712 discloses broad individual ranges with regard to weight percent of peroxide and the coagent, '712 fails to mention anything with regard to the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to**

1:20. Additionally, none of the specific teachings of '712, i.e. Example 1-8, as shown above in Table III, teaches the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20.** Therefore, '712 fails to teach all of the required elements of the instant invention.

With regard to '803, although '803 discloses broad individual ranges with regard to weight percent of peroxide and the coagent, '803 fails to mention anything with regard to the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20.** Additionally, none of the specific teachings of '803, i.e. Example 1-8, as shown above in Table IV, teaches the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20.** Therefore, '803 fails to teach all of the required elements of the instant invention.

Accordingly, Claims 1-22 are not anticipated by the U.S. Patent Nos. 6,548,600, and 6,610,785, European Patent Publication No. EP 0,672,712, or International Publication No. WO 02/24803.

DISCUSSION WITH REGARD TO SECTION 103(a) REJECTION

Claims 1-22 are not obvious over the U.S. Patent Nos. 6,548,600, and 6,610,785, European Patent Publication No. EP 0,672,712, or International Publication No. WO 02/24803 for the reasons stated below.

To reject claims in an application under section 103, an examiner must show a *prima facie* case of obviousness. *In re Deuel*, 51 F. 3d 1552, 1557 (Fed. Cir. 1995). All words in a claim must be considered in judging the patentability of that claim against prior art. *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). Furthermore, to establish a *prima facie* case of obviousness, the following three basic elements must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) the prior art reference or references when combined must teach or suggest all the claim limitations; **and** (3) there must be a reasonable expectation of success. MPEP § 2143. In addition, if an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

The instant invention, as described in Claims 1-22, requires a **0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. This combination of specific ranges insures that the

rheology-modified, gel-free thermoplastic elastomer composition of the instant invention has an STI of 15-30, a tan delta at 190°C of 1.05-1.40 and a gel content that is below detectable limits when using xylene as the solvent in ASTM D 2765-90, method B. However, not only do the above-mentioned prior art references fail to mention anything about the combination of specific ranges as required by the instant invention, but they also fail to suggest or motivate a person of ordinary skill in the art to modify their combined teachings to achieve the combination of specific ranges as required by the instant invention.

With regard to '600, although '600 discloses broad individual ranges with regard to weight percent of peroxide and the coagent, '600 fails to mention anything with regard to the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20.** Additionally, none of the specific teachings of '600, i.e. Example 1-8, as shown above in Table I, teaches the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20.** In fact, the specific teachings of '600, Examples 1-8, teach away from the instant invention. Examples 1-8 teach away from the instant invention because the peroxide:coagent ratio of '600, as shown above in Table I, is substantially different than the required combination of two specific ranges of the instant

invention. Therefore, not only does '600 fail to mention anything about the combination of two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**, but it also fails to suggest or motivate a person of ordinary skill in the art to modify the combined teachings of the above-mentioned prior art references to obtain the combination of two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**.

With regard to '785, '785 requires an excess amount of peroxide relative the coagent, as shown in Table II. Furthermore, not only does the general teaching of '785 fails to disclose the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**, but the specific teachings of '785, i.e. Examples 1-12 as shown above in Table II, fail to teach the combination of the two specific ranges as required by the instant invention. In fact, '785 teaches away from the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. '785 teaches away from the instant invention because Examples 1-12, contrary to teachings of instant invention, require an excess amount of peroxide, as shown above in Table II. Therefore, not only does '785 fail to teach the combination of the

two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**, but it also fails to suggest or motivate a person skill in to modify the combined teachings of the above-mentioned prior art references to obtain the combination of two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**.

With regard to '712, although '712 discloses broad individual ranges with regard to weight percent of peroxide and the coagent, '712 fails to mention anything with regard to the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. Additionally, none of the specific teachings of '712, i.e. Example 1-8, as shown above in Table III, teaches the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. In fact, '712 teaches away from the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. '712 teaches away from the instant invention because Examples 1-8, contrary to teachings of instant invention, require an excess amount of peroxide, as shown above in Table III. Therefore, not only does '712 fail to teach the combination of the

two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**, but it also fails to suggest or motivate a person skill in to modify the combined teachings of the above-mentioned prior art references to obtain the combination of two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**.

With regard to '803, although '803 discloses broad individual ranges with regard to weight percent of peroxide and the coagent, '803 fails to mention anything with regard to the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. Additionally, none of the specific teachings of '803, i.e. Example 1-8, as shown above in Table IV, teaches the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. In fact, the specific teachings of '803, Examples 1-8, teach away from the instant invention. Examples 1-8 teach away from the instant invention because the peroxide:coagent ratio of '803, as shown above in Table VI, is substantially different than the required combination of two specific ranges. Therefore, not only does '803 fail to mention anything about the combination of two specific ranges as required by the instant invention, i.e. **a 0.075**

wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20, but it also fails to suggest or motivate a person of ordinary skill in the art to modify the combined teachings of the above-mentioned prior art references to obtain the combination of two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20.**

Accordingly, Claims 1-22 are not obvious over the U.S. Patent Nos. 6,548,600, and 6,610,785, European Patent Publication No. EP 0,672,712, or International Publication No. WO 02/24803.

DISCUSSION WITH REGARD TO SECTION 102(b) REJECTION

Claims 1-22 are not anticipated by the U.S. Patent No. 6,087,431 ('431) for the reasons stated below.

To anticipate a claim, a single source must contain all of the elements of the claim. *Hybritech Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1379, 231 U.S.P.Q. 81, 90 (Fed. Cir. 1986). Missing elements may not be supplied by the knowledge of one skilled in the art or the disclosure of another reference. *Structural Rubber Prods. Co. v. Park Rubber Co.*, 749 F.2d 707, 716, 223 U.S.P.Q. 1264, 1271 (Fed. Cir. 1984).

The instant invention, as described in Claims 1-22, requires **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to**

1:20. This combination of specific ranges insures that the rheology-modified, gel-free thermoplastic elastomer composition of the instant invention has an STI of 15-30, a tan delta at 190°C of 1.05-1.40 and a gel content that is below detectable limits when using xylene as the solvent in ASTM D 2765-90, method B.

However, although '431 discloses broad individual ranges with regard to weight percent of peroxide and the coagent, '431 fails to mention anything with regard to the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20.**

Additionally, none of the specific teachings of '431, i.e. Example 1-8, teaches the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20.** Therefore, '431 fails to teach all of the required elements of the instant invention. Accordingly, Claims 1-22 are not anticipated by the U.S. Patent No. 6,087,431.

DISCUSSION WITH REGARD TO SECTION 103(a) REJECTION

Claims 1-22 are not obvious over the U.S. Patent No. 6,087,431 for the reasons stated below.

To reject claims in an application under section 103, an examiner must show a *prima facie* case of obviousness. *In re Deuel*, 51 F. 3d 1552, 1557 (Fed. Cir. 1995). All words in a claim must be considered in judging the patentability of that claim against prior art. *In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970). Furthermore, to establish a *prima facie* case of obviousness, the following three basic elements must be met: (1) there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings; (2) the prior art reference or references when combined must teach or suggest all the claim limitations; **and** (3) there must be a reasonable expectation of success. MPEP § 2143. In addition, if an independent claim is non-obvious under 35 U.S.C. 103, then any claim depending therefrom is non-obvious. *In re Fine*, 837 F. 2d 1071 (Fed. Cir. 1988).

The instant invention, as described in Claims 1-22, requires **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. This combination of specific ranges insures that the rheology-modified, gel-free thermoplastic elastomer composition of the instant invention has an STI of 15-30, a tan delta at 190°C of 1.05-1.40 and a gel content that is below detectable limits when using xylene as the solvent in ASTM D 2765-90, method B.

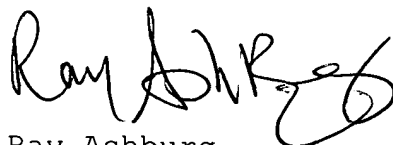
However, although '431, as mentioned above, discloses broad individual ranges with regard to weight percent of peroxide and the coagent, '431 fails to mention anything with regard to the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. Additionally, none of the specific teachings of '431, i.e. Example 1-8, teaches the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. In addition, '431 fails to suggest or motivate a person of ordinary skill in the art to modify the teachings of '431 to obtain the combination of the two specific ranges as required by the instant invention, i.e. **a 0.075 wt% or less peroxide and a peroxide:coagent ratio of 1:4 to 1:20**. '431 fails to suggest or motivate its teachings to obtain the combination of the two specific ranges of the instant invention because the specific teachings of '431, i.e. Examples 1-8 as shown above in Table V, teaches away from the combination of two specific ranges of the instant invention, i.e. the weight percent of peroxide is substantially higher than 0.075 wt%, as required by the instant invention.

Accordingly, Claims 1-22 are not obvious over the U.S. Patent Nos. 6,087,431.

CONCLUSION

In view of the forgoing, Applicant respectfully requests that the rejections be overturned and that the instant application be allowed to proceed to issuance.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Ray Ashburg", with a stylized flourish at the end.

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